

Report Date: 27 Mar 2015
Summary Report for Crew Drill Drill Task
Drill Number: 07-4-D9320
Drill Title: Remove a Misfire from 120-mm Mortar
Status: Approved
Status Date: 27 Mar 2015

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD6 - This product/publication has been reviewed by the product developers in coordination with the MCoE G-2 foreign disclosure authority. This product is releasable to students from foreign countries on a case-by-case basis.

Drill Data

Proponent: 07 - Infantry (Collective)

Drill Type: Crew Drill

Approved:

Obsolete:

Restricted Read: No

Route To TMD Reviewer: No

TMD Concurrence:

TMD Comments:

Safety Level: Medium

Conditions:

The unit is conducting operations as part of a higher headquarters. The squad is in a firing position. A loaded mortar fails to fire. Some iterations of this task should be performed in MOPP 4.

Standards:

The first crewmember to recognize the non-fire announces, "MISFIRE". The squad leader supervises/confirms actions of the crew using TM 9-1015-250-10 with appropriate changes during entire misfire procedures. The crew performs misfire procedures in sequence and without error while observing all safety measure.

Drill Statements:

DANGER	
NONE	
WARNING	
NONE	
CAUTION	
NONE	

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. .

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT. .

Cue: This drill begins when a crew member notices the failure and announces, "Misfire."

Coaching Point: NONE

TASK STEPS

1. When a misfire occurs, any crewmember announces, "MISFIRE".

* 2. Squad leader supervises/confirms actions of the crew using TM 9-1015-250-10 with appropriate changes during entire misfire procedures.

3. All crewmembers remain with the mortar.

Note: DURING PEACETIME LIVE-FIRE EXERCISES, all crewmembers EXCEPT THE GUNNER AND SQUAD LEADER leaves the firing position and move at least 100 meters to the rear of the mortar position. All crewmembers exit the firing area IN AN ORDERLY MANNER and return in the same way.

WARNING: Gunner ensures that the cross-leveling locking handle is as tight as physically possible.

4. Gunner stands to the left or right rear of the mortar and strikes the barrel several blows with the heel of his boot. If the cartridge does not fire after kicking the barrel, the gunner waits one minute. (During peacetime live-fire exercises, the gunner moves to where the rest of the crew is and waits the one minute.)

a. Gunner returns to the mortar, after one minute.

b. The gunner performs the following:

(1) Gunner places the safety mechanism on SAFE (S showing) and announces, "The safety mechanism is in the safe position" when the mortar barrel is cool enough to handle.

(2) Checks the barrel for heat using his bare hands. Starting at the muzzle, he lightly touches the barrel with his fingertips every few inches down to the breech cap. If the barrel is too hot, the crew uses some means to cool it down before attempting to remove the misfire.

5. Gunner calls the crew forward.

6. Assistant gunner physically confirms that the safety mechanism is on SAFE (S showing) and announces, "the safety mechanism is in the SAFE position".

7. Gunner removes and stows sight unit and sight extension.

8. Assistant gunner inspects catches on cartridge extractor to ensure they are the latest configuration.

a. Ensures that there is a 1/8-inch [0.32 cm] hole in the face of the catch. (The hole indicates that the catch is the latest configuration.)

b. Ensures the cartridge extractor catches are free of burrs, wear, or rust/corrosion that would impair function.

c. Tests each cartridge extractor catch to ensure free operation and that each will snap positively into original position.

d. Does not use the cartridge extractor if it fails to meet inspection standards. (The assistant gunner completes steps 19 through 24 to remove the misfired cartridge.)

9. Assistant gunner attaches cartridge extractor securely to extended artillery cleaning staff assembly.

a. Ensures artillery-cleaning staff assembly section sleeves are all tightly locked, so that staff assembly will not extend or retract.

WARNING

To avoid injury to crew, if in high range, do not lower to low range. If in low range, do not raise to high range. To avoid serious injury, do not stand in front of or behind barrel.

b. Does not use the cartridge extractor assembly if the section sleeves cannot be tightly locked. (The assistant gunner completes steps 19 through 24 to remove the misfired cartridge.)

10. Gunner slowly lowers cannon to its lowest elevation, leaving 0.25 in. (0.64 cm) of inner elevating sleeve showing, before assistant gunner inserts cartridge extractor.

11. Assistant gunner inserts cartridge extractor into the barrel until it rests on the cartridge and will not descend any further.

a. Rotates slowly the cartridge extractor until it grasps cartridge. (Cartridge has been grasped when the extractor catches click into the holes on the cartridge body.)

WARNING

When removing the cartridge, do not touch the primer and do not stand directly in front of the barrel.

b. Continues rotating cartridge extractor 1/4 turn. (The resistance of the extractor should be much heavier because of latching onto the cartridge.)

c. Completes the following if EXTRA RESISTANCE is not felt: (The cartridge extractor has not successfully connected to the cartridge.)

d. Relaxes grip on the artillery cleaning staff assembly momentarily. Then without rotating, slowly pulls the staff assembly slightly to ensure cartridge is grasped. If cartridge is connected, continue to remove cartridge.

(1) Ensures the gunner's hands are held ready at the muzzle.

(2) Withdraws the cartridge straight out of the barrel with the cartridge extractor. (If the cartridge cannot be withdrawn, completes steps 19 through 24 to remove the misfired cartridge.)

12. Gunner grasps the cartridge as it comes out of the barrel and holds it horizontally while the ammo bearer releases the extractor.

13. Ammo bearer releases the cartridge from the cartridge extractor by depressing the four extractor catches simultaneously. (Do not place the cartridge on the ground when removing the cartridge extractor.)

14. Gunner inspects the cartridge.

15. Gunner gives the cartridge to the ammo bearer.

16. Ammo bearer completes the following, after being given the cartridge:

a. Attempts to replace the safety wire (if applicable).

b. Places the cartridge in the dud pit.

c. Tags the cartridge.

d. Notifies Explosive Ordnance Disposal (EOD).

17. Assistant gunner dry swabs the barrel.

18. Gunner re-lays the mortar and continues the mission.

Note: Crew completes 19 through 24 if the extractor assembly is unserviceable or if extractor methods have failed.

19. Gunner holds barrel near muzzle and assistant gunner holds bipod assembly.

20. Ammo bearer opens buffer housing assembly.

21. Gunner and ammo bearer turn barrel until the white line is in the down position and carefully remove barrel from breech cap socket.

22. Assistant gunner places the meaty portions of his thumbs over the edges of the muzzle, grasping the barrel with his fingers.

23. Ammo bearer, at the gunners command, lifts the cannon's breech cap assembly causing the cartridge to slide down to the assistant gunner's hands.

24. Assistant gunner completes the following:

a. Removes the cartridge.

b. Inspects the cartridge.

c. Attempts to replace the safety wire (if applicable).

d. Places the cartridge in the dud pit.

e. Tags the cartridge.

f. Notifies Explosive Ordnance Disposal (EOD).

Note: Crew completes step 25 if the cartridge will not slide down the barrel.

25. Gunner and ammo bearer lift barrel (with the cartridge extractor still attached to cartridge) carefully over the ramp crossmember (M121 only).

(Asterisks indicates a leader performance step.)

TASK MEASURES

1. A crewmember announced, "MISFIRE".
 2. Squad leader supervised/confirmed actions of the crew.
 3. All crewmembers remained with the mortar.
 4. Gunner stood to the left or right rear of the mortar.
 5. Gunner called the crew forward.
 6. Assistant gunner physically confirmed that the safety mechanism was on SAFE.
 7. Gunner removed and stowed the sight unit and sight extension.
 8. Assistant gunner inspected the catches on cartridge extractor.
 9. Assistant gunner attached the cartridge extractor.
 10. Gunner slowly lowered the cannon to its lowest elevation.
 11. Assistant gunner inserted the cartridge extractor into the barrel.
 12. Gunner grasped the cartridge as it came out of the barrel.
 13. Ammo bearer released the cartridge from the cartridge extractor.
 14. Gunner inspected the cartridge.
 15. Gunner gave the cartridge to the ammo bearer.
 16. Ammo bearer completed all actions after being given the cartridge.
 17. Assistant gunner dried and swabed the barrel.
 18. Gunner re-laid the mortar and continued the mission.
 19. Gunner held the barrel near the muzzle and assistant the gunner held bipod assembly.
 20. Ammo bearer opened the buffer housing assembly.
 21. Gunner and ammo bearer turned the barrel until the white line was in the down position.
 22. Assistant gunner placed the meaty portions of his thumbs over the edges of the muzzle.
 23. Ammo bearer, at the gunners command, lifted the cannon's breech cap assembly.
 24. Assistant gunner completed the required actions.
 25. Gunner and ammo bearer lifted the barrel.
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Talk:

a.Orientation: The objective of this squad drill is to provide the squad with basic skills necessary to remove a misfire from a 120-mm mortar.

b.Safety: (1) During peacetime live-fire exercises, all crewmembers except the gunner and squad leader leaves the firing position and move at least 100 meters to the rear of the mortar position.

(2) To avoid serious burns, Soldiers must wait until the mortar is cool enough to touch with bare hands. Water or snow applied to the outside of the barrel can be used for cooling.

(3) To avoid serious injury, do not stand in front of or behind barrel.

c.Demonstration: (optional). If another squad has successfully performed this drill, have that squad demonstrate it. During the demonstration, explain what is being done and why, using the performance measures as a guide. After the demonstration, summarize the actions performed by the demonstrating squad.

d.Explanation: (1) Refer to the performance measures and explain what the squad leader, gunner, ammunition bearer, and assistant gunner is required to do upon hearing "MISFIRE."

(2) Ensure that the squad leader and squad members know their duties and responsibilities pertaining to each portion of the drill.

(3) Ask if there are any questions pertaining to the drill. If so, ensure that all questions are correctly answered before beginning to train the drill.

e.Unit Instructions: a. Resources.

(1) 120-mm mortar

(2) Cartridge extractor

(3) Ammunition

(4)All other required Table(s) of organization and equipment (TOE) assigned personnel and equipment.

b. Training Site: A mortar firing range or training area with sufficient mask and overhead clearance.

c. Unit Instructions. The squad is conducting fire missions and the mortar fails to fire. The first crew member that notices the failure of the mortar round to fire announces, "MISFIRE."

Walk:

1. Refer to the performance measures and have each squad member perform his part slowly at first as the leader talks him through.

2. NONE

Run:

a.Run-Through Instructions: The unit should practice this drill until they can perform it according to standard, without using notes. The initial run-through exercise should be conducted slowly. The soldiers should change positions in order to learn all steps and standards.

b.Coaching Point: NONE

c.Performance Instructions: When the soldiers can perform this drill according to the standard, they should be evaluated by the platoon leader or sergeant.

Equipment (LIN)

Step ID	LIN	Nomenclature	Qty
No equipment specified			

Materiel Items (NSN)

Step ID	NSN	LIN	Title	Qty
No materiel items specified				

Support Personnel

Personnel Type	Description	School	Qty	Remarks
No support personnel specified				

TADSS

Step ID	TADSS ID	Title	Product Type	Qty
	07-13B	Pneumatic Mortar Trainer/ M32A1	DVC	1
	07-13A	Mortar, Pneumatic/ M32	DVC	1
	GTA 07-01-017	Mortar Fire Without a Fire Direction Center (Local TADSS – Not in TSMATS/PAM 25-30)	GTA	1
	DVC-VBS2	VIRTUAL BATTLESPACE 2 (Local TADSS – Not in TSMATS/PAM 25-30)	DVC	1

Supporting Individual Tasks

Step ID	Task ID	Status	Task Title
	071-074-0044	Approved	Supervise a Mortar Squad
	071-11C-0200	Approved	Maintain a 120-mm Mortar
	071-11C-0201	Approved	Perform Safety Checks on a 120-mm Mortar
	071-11C-0204	Approved	Prepare 120-mm Mortar Ammunition for Firing
	071-11C-1000	Approved	Fire a Mortar
	071-11C-1001	Approved	Engage Targets with a 60-mm, 81-mm, or 120-mm Mortar Using Direct Lay
	071-11C-1006	Approved	Occupy a Mortar Firing Position by a Squad
	071-11C-1200	Approved	Occupy a Mortar Firing Position by a Section
	071-11C-1208	Approved	Control the Expenditure of Mortar Ammunition

Prerequisite Individual Tasks

Step ID	Task ID	Status	Task Title
No prerequisite individual tasks specified			

Supporting Collective Tasks

Step ID	Task ID	Status	Title
	07-3-3054	Approved	Fire a Mortar Adjust Fire Mission (Section-Platoon)

Prerequisite Collective Tasks

Step ID	Task ID	Status	Title
No prerequisite collective tasks specified			

Supporting Drill Tasks

Step ID	Drill ID	Status	Drill Title
	07-4-D9339	Approved	Fire a Mortar

OPFOR

Task Number	Title	Status
71-0-0014	Disruption	Approved

REFERENCES

Step Number	Reference ID	Reference Name	Required	Primary
	FM 3-22.90	Mortars	Yes	Yes
	TM 9-1015-250-10	OPERATORS MANUAL FOR MORTAR, 120MM: TOWED M120 (NSN 1015-01-226-1672) (EIC: 4SL) AND MORTAR, 120MM: CARRIER-MOUNTED M121 (1015-01-292-3801) (EIC: 4SE) (REPRINTED W/BASIC INCL C1-3)D	Yes	No

Training Setup

A mortar firing range or training area with sufficient mask and overhead clearance.

Training Facilities

Facility ID	Facility Name	Facility Type
No Training Facilities		

DODIC

DODIC	Name	Qty
No DODIC		

Associated Documents

Media ID	Media Type	Title	Subtitle
No Associated Documents			

GLOSSARY TERMS

Glossary Term	Definition
No glossary terms specified	

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
No acronyms/abbreviations specified	